

FDN-2746



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : David C. Streuli et al) Examiner Sharmila S. Gollamudi
Serial No. : 10/643,238) Group Art Unit 1616
Filed : 08/18/2003) Confirmation No. 3286

For : HAIR SPRAY COMPOSITION

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AUGUST 3, 2006

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

BRIEF ON APPEAL

This Appeal Brief is submitted in response to the Examiner's Final Rejection mailed 04/19/2006 and to the filing of our Notice of Appeal mailed on 07/14/2006.

The Commissioner is hereby authorized to charge the \$500 fee for the filing of this Brief on Appeal to our Deposit Account No. 07-0650.

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1. REAL PARTY IN INTEREST

ISP INVESTMENTS INC., of 300 Delaware Avenue, Wilmington, Delaware 19801, is the owner of the entire right, title and interest in the appealed application.

2. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences related to this application are known to applicants or to said assignee of entire right, title and interest.

3. STATUS OF ALL CLAIMS

The claims pending in the application are claims 2-4 and are appealed.

4. STATUS OF AMENDMENTS AFTER FINAL REJECTION

No amendment after final has been filed.

5. REFERENCES CITED

<u>U.S. PATENT</u>	<u>DATE</u>	<u>INVENTOR</u>	<u>CLASS/SUBCLASS</u>
6,589,510	07/2003	Kalbfleisch et al	424/47
6,752,983	06/2004	Dobbs et al	424/70.1
6,214,328	04/2001	Chang et al	424/70.16

OTHER REFERENCES

RD 422068

6. GROUPING OF CLAIMS

Claims 2-4 do not stand or fall together for the reasons set forth in 37 CFR 1.192(c)(7) and (c)(8).

7. CLAIMS APPEALED

A copy of the appealed claims is contained in the Appendix to the Brief.

8. SUMMARY OF THE INVENTION

This invention is directed to a high pressure, forceful 55% volatile organic compound (VOC) hair styling spray composition consisting essentially of, by wt., a concentrate of about 4% of an isobutylene/ethyl maleimide/hydroxyethylmaleimide copolymer as film-former, about 6-12% water, and about 45% ethanol, and a propellant consisting essentially of about 31% of (a) a hydrofluorocarbon (HFC) and about 6% of (b) a mixture of propane/isobutene as a 50/50 wt./wt. mixture, which provides a defined advantageous spray pressure delivering a desired spray particle size to the root of the hair, allowing for a dispersed, relatively dry spray pattern enabling root lifting and apparent volume on the hair with low tack on wet or dry hair.

Preferably, (a) is 1,1-difluoroethane.

9. STATEMENT OF ISSUES PRESENTED

Claims 2-4 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Examiner has alleged that claim 2 is directed to a 55% VOC including 45% ethanol, 31% HFC and 60% propane/ethane, wherein the total amount of volatile organic compounds is 82% and applicant is claiming a 55% VOC composition.

The Examiner has alleged further that appellants must submit evidence that the entire class of HFC propellants are not considered VOC materials since independent claim 2 claims the HFC genus.

Claims 2-3 were rejected under 35 U.S.C. 103(a) on Dobbs et al in view of RD 422068. The Examiner has alleged that Dobbs teaches a hair spray with reduced volatile organic compounds. Further, Dobbs teaches that propellants such as dimethylether, isobutene and propane, and solvents such as ethanol are VOCs (volatile organic compounds) and must be considered as such in the hair spray formulations in which they are used. Dobbs teaches that to lower the VOC content of the spray, many manufacturers have replaced ethanol in their sprays with water. However, an increase in the water concentration can adversely affect the performance of the hair spray by accelerating the initial curl droop and/or increasing the dry time on the hair.

Dobbs also teaches a composition comprising a fixative, ethanol and methyl acetate, and/or t-butyl acetate, a propellant, and optionally water. Preferably the Dobbs composition comprises: (a) from about 1 to about 10% fixative; (b) from about 20 to about 75% ethanol; (c) from about 1 to about 60% acetate (methyl acetate and/or t-butyl acetate); and (d) from about 15 to about 45% propellant. More preferably the Dobbs composition is seen to comprise from about 2 to about 8% fixative and from about 20 to about 35% propellant. These formulations may also contain water, which preferably comprises from about 0.01 to about 45% of the composition, and more preferably from about 0.01 to about 30% of the composition, citing column 6, lines 15-35.

Dobbs is alleged to teach the manipulation of the concentrations of each component. For instance, the lower end of ethanol may be 25%, 30%, 35%, 40%, 45%, or 50%. Dobbs teaches the endpoints of acetate and ethanol weight percentages can be selected and combined in any combination that is mathematically possible, and can be combined with the preferred or more preferred fixative, propellant, and water weight ranges. For example, in its more preferred embodiment, their compositions may comprise from about 20 to about 55 weight % ethanol; from about 10 to about 40 weight

% methyl acetate; from about 4 to about 8 weight % fixative; and from about 20 to about 35 weight % propellant, referring to column 6, lines 36-62.

Dobbs was seen to teach an "organic solvent-based" formulation in which the ingredients are soluble, dispersible, or miscible in an organic solvent, preferably no exceeding 55% of the composition (see column 5, lines 40-45). Water can be present in such formulations, but typically at concentrations no more than 15%. A "water solvent-based" formulation is seen to refer to a formulation in which the ingredients are soluble, dispersible, or miscible in water or a water/organic solvent mixture. Organic solvents may also be present in such formulations, typically at any level, preferably not exceeding 55 weight % of the formulation.

Dobbs' propellants include propane, isobutene, n-butane, dimethyl ether (hydrocarbon), 1,1-difluoroethane (hydrofluorocarbon), 1,1,1,2-tetrafluoroethane, and mixtures thereof. In one particularly preferred embodiment the propellant comprises 1,1-difluoroethane (hydrofluorocarbon). In an organic solvent-based systems, a mixture of propane and isobutene is preferred. The propellant preferably comprises from about 5 to about 50 parts by weight propane and from about 50 to about 95 parts by weight isobutane. If any water is present in the formulation, then the propellant system also preferably comprises, in addition to propane and butane, dimethyl ether or one of the hydrofluorocarbons (HFC) discussed above. See column 8, lines 45-61. An issue is present that this is a suggestion of the instantly claimed isobutene, propane and HFC.

Dobbs teaches the inclusion of other conventional additives such as preservatives, fragrances, antifoaming agents, hair conditioners, detackifiers, corrosion inhibitors, wetting agents, emulsifiers, gloss enhancers, and plasticizers may be added in quantities as desired, up to about 5% by weight of the total formulation. Dobbs teaches any fixative polymer that is commercially available and routinely used in the art may be used. See column 8, lines 62-65.

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The Examiner has admitted that Dobbs does not teach the instant isobutylene/ethylmaleimide/hydroxyethylmaleimide copolymer as the hair fixative, and thus this is not an issue herein.

However, the Examiner has stated that RD '068 teaches AQUAFLEX® FX-64, which is (isobutylene/ethylmaleimide/hydroxyethylmaleimide) as a hair styling polymer.

The Examiner has maintained that it would have been obvious to one of ordinary skill in the art to combine the teachings of Dobbs et al and RD '068 and utilize the AQUAFLEX® FX-64 in Dobbs hair composition. One would have been motivated to do so since RD '068 teaches the AQUAFLEX® FX-64 is a styling polymer that not only has enhanced styling effects but also is environmentally friendly. Thus, a skilled artisan would have expected success by the instant combination since not only does Dobbs teach any hair polymer that is known in the art may be used but Dobbs teaches an environmentally acceptable hair composition with a low VOC and the use of the instant hair fixative would further enhance the environmental acceptability of the composition.

With regard to claim 2, the Examiner alleged that Dobbs provides the general weight percents of each instantly claimed component. Dobbs teaches (a) from about 1 to about 10% fixative, which encompasses instantly claimed "about 4% of copolymer"; (b) from about 20 to about 75% ethanol, which encompasses instantly claimed "about 45% ethanol"; (c) from about 15 to about 45% propellant, which encompasses instantly claimed "about 31% of (a) and about 6% of (b)"; and (d) about 0.01 to about 45 weight % of the composition, more preferably from about 0.01 to about 30 weight % of the composition, which encompasses instantly claimed "about 6-12% of water". See column 6, lines 15-35. With regard to the propellant system, firstly Dobbs teaches the preference for the use of a mixture of propane in the amount of 5-50% and butane in the amount of 50-95%, which encompasses instantly claimed "50/50 mixture of propane/isobutene". Further, Dobbs teaches that, if water is present, the propellant system preferably comprises, in addition to propane and butane (50-95), dimethyl ether or a hydrofluorocarbons. Thus, it was the Examiner's position that the manipulation of

concentrations that it is within the skill of an artisan which is done during routine experimentation. Also, the Examiner maintained that Dobbs teaches the manipulation of the various components on column 6, depending on the other components and their weight percent in the composition. For instance, Dobbs was seen to teach the use of a lower concentration of ethanol, if water and propellant are included in the formulation. Furthermore, one would have been motivated to utilize to a lower concentration of water since Dobbs teaches water can adversely effect the curl holding properties of the composition.

10. THE ARGUMENT

Claim 2 was rejected by the Examiner under 35 U.S.C. 112 as not directed to a 55% VOC composition. However, the HFC propellant component in an amount of 31 wt.% of the composition is not considered by the standards established for a 55% VOC composition as being included in the VOC portion of the composition. Accordingly, amended claim 2 does conform to a 55% VOC composition because its "volatile" components are 45% ethanol and 6% of a 50/50 wt/wt mixture of propane and isobutene, a total of only 51% VOCs.

Claims 2-4 were rejected under 35 U.S.C. 103(a) over Dobbs ('983) in view of RD 422068. The Examiner has alleged that Dobbs teaches a hair spray with reduced VOCs, and discloses propellants such as dimethyl ether, isobutene and propane and solvents such as ethanol. The Dobbs compositions were considered to comprise a fixative, ethanol, methyl acetate and/or butyl acetate, a propellant and optionally water. In the preferred embodiments of Dobbs, the methyl acetate solvent comprises 10 to 40 wt.% of the composition. Conventional propellant are suggested by Dobbs but not in any formulation which can provide a high pressure, forceful (70 psi) spray with a desired spray particle size (60 μ m).

In particular, the essential component in the Dobbs composition, namely, the methyl and/or butyl acetate solvent, is absent in the composition of this invention, and the term "consisting essentially of" would further exclude it from this composition.

Furthermore, the Dobbs propellant, if present, can be dimethyl ether alone, or a mixture of propane and isobutene, or methane, ethane, propane, isobutene, dimethyl ether, or 1,1-difluoroethane, or mixtures thereof. However, the reference does not teach, disclose or suggest, a propellant system "consisting essentially of" of about 31% 1,1-difluoroethane and 6% propane/isobutene (as a 50/50 wt. mixture). The invention propellant system, in contrast to the Dobbs pump or aerosol composition, uniquely provides a high pressure, forceful (about 70 psi) hair spray composition delivering a mean spray particle size (about 60 μm) to the root of the hair, allowing for a dispersed, relatively dry spray pattern which provides root uplifting and apparent volume on the hair with low tack on wet or dry hair. None of the examples in Dobbs (Exs. 9-11) show or suggest such a composition, or the advantageous results achieved herein for hair styling.

The Examiner has cited RD to show that the preferred film-former of the claimed composition was known in the art. Applicant disclosed in the specification that this copolymer was described by Ulmer (ISP) and is sold commercially as Aquaflex[®] FX-64 (ISP). However, as claimed, the film-former is only part of the inventive features herein. More particularly, a 55% VOC hair spray composition including such polymer has a high pressure and predetermined particle size in the specifically defined propellant system consisting of the three propellant components in defined amounts.

THE APPEALED CLAIMS

Claim 2. A high pressure, forceful 55% volatile organic compound (VOC) hair styling spray composition consisting essentially of, by wt., a concentrate of about 4% of an isobutylene/ethylmaleimide/hydroxyethylmaleimide copolymer as film-former, about 6-12% water, and about 45% ethanol, and a propellant consisting essentially of about 31% of (a), a hydrofluorocarbon (HFC), and about 6% of (b), a mixture of propane/isobutene as a 50/50 wt./wt., mixture providing a spray pressure of about 70 psi when used in combination with a Summit SV-9297 valve and a V-94, 0.025" MB actuator thereby delivering a mean spray particle size of about 60 μm to the root of the hair, allowing for a dispersed, relatively dry spray pattern enabling root lifting and apparent volume on the hair with low tack on wet or dry hair.

Claim 3. The composition of claim 2 wherein (a) is 1,1-difluoroethane.

Claim 4. The composition of claim 2 further including one or more of a cationic polymer or a cationic surfactant, a corrosion inhibitor, or a silicone selected from phenyl trimethicone and cyclopentasiloxane.

11. CONCLUSION

In view of the foregoing, Appellant respectfully believes that the claims on appeal define patentable invention and allowable subject matter over the cited art. Reversal and allowance of the claims is respectfully solicited.

Respectfully submitted,



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THE APPENDIX

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